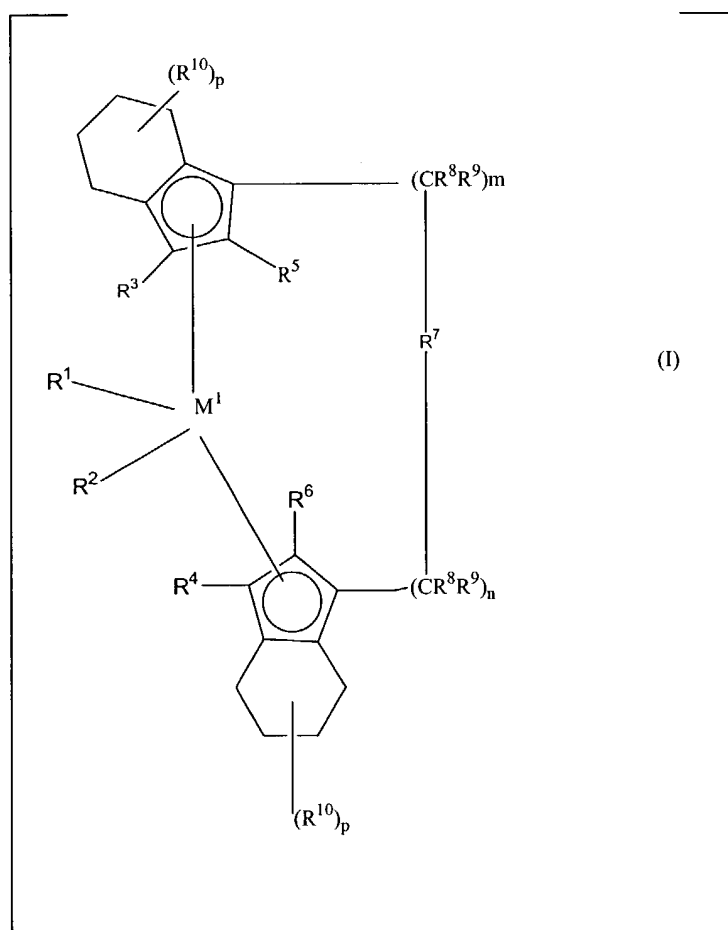
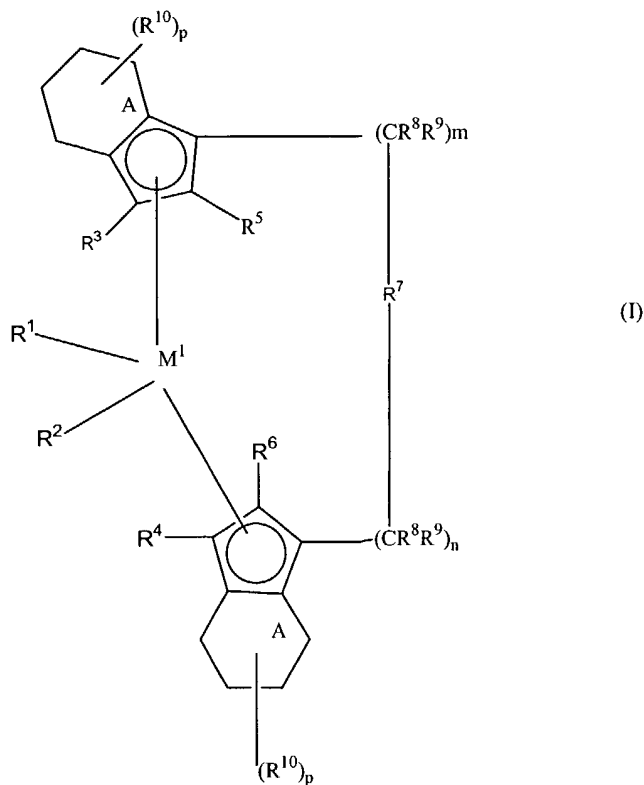


**AMENDMENTS TO THE CLAIMS**

1. A compound of the formula I [for preparing essentially isotactic olefin polymers]





in which

$M^1$  is a metal from group IVb, Vb or VIb of the Periodic Table

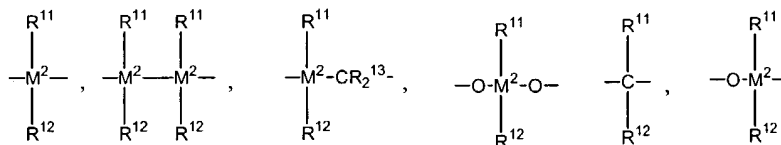
$R^1$  and  $R^2$  are identical or different and are a hydrogen atom, a  $C_1$ - $C_{10}$ -alkyl group, a  $C_1$ - $C_{10}$ -alkoxy group, a  $C_6$ - $C_{10}$ -aryl group, a  $C_6$ - $C_{10}$ -aryloxy group, a  $C_2$ - $C_{10}$ -alkenyl group, a  $C_7$ - $C_{40}$ -arylalkyl group, a  $C_7$ - $C_{40}$ -alkylaryl group, a  $C_8$ - $C_{40}$ -arylalkenyl group or a halogen atom,

$R^3$  is a hydrogen atom, a halogen atom, a  $C_2$ - $C_{10}$ -alkyl group, a  $C_1$ - $C_{10}$ -alkyl group which is halogenated, a  $C_6$ - $C_{10}$ -aryl group, an  $-NR_2^{15}$ ,  $-SR^{15}$ ,  $-OSiR_3^{15}$ ,  $-SiR_3^{15}$  or  $-PR_2^{15}$  radical in which  $R^{15}$  is a halogen atom, a  $C_1$ - $C_{10}$ -alkyl group or a  $C_6$ - $C_{10}$ -aryl group,

[R<sup>3</sup> and] R<sup>4</sup> is a hydrogen atom, a halogen atom, [a halogen atom,] a C<sub>1</sub>-C<sub>10</sub>-alkyl group, which is optionally halogenated, a C<sub>6</sub>-C<sub>10</sub>-aryl group, an -NR<sub>2</sub><sup>15</sup>, -SR<sup>15</sup>, -OSiR<sub>3</sub><sup>15</sup>, -SiR<sub>3</sub><sup>15</sup> or -PR<sub>2</sub><sup>15</sup> radical in which R<sup>15</sup> is a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group or a C<sub>6</sub>-C<sub>10</sub>-aryl group,

R<sup>5</sup> and R<sup>6</sup> are identical or different and are as defined for [R<sup>3</sup> and] R<sup>4</sup>, with the proviso that R<sup>5</sup> and R<sup>6</sup> are not hydrogen,

R<sup>7</sup> is



=BR<sup>11</sup>, =AIR<sup>11</sup>, -Ge-, -Sn-, -O-, -S-, =SO, =SO<sub>2</sub>, =NR<sup>11</sup>, =CO, =PR<sup>11</sup> or =P(O)R<sup>11</sup>,

where

R<sup>11</sup>, R<sup>12</sup> and R<sup>13</sup> are identical or different and are a hydrogen atom, a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group, a C<sub>1</sub>-C<sub>10</sub>-fluoroalkyl group, a C<sub>6</sub>-C<sub>10</sub>-aryl group, a C<sub>6</sub>-C<sub>10</sub>-fluoroaryl group, a C<sub>1</sub>-C<sub>10</sub>-alkoxy group, a C<sub>2</sub>-C<sub>10</sub>-alkenyl group, a C<sub>7</sub>-C<sub>40</sub>-arylalkyl group, a C<sub>8</sub>-C<sub>40</sub>-arylalkenyl group or a C<sub>7</sub>-C<sub>40</sub>-alkylaryl group, or a pair of substituents R<sup>11</sup> and R<sup>12</sup>-- or R<sup>11</sup> and R<sup>13</sup> in each case with the atoms connecting them, form a ring,

M<sup>2</sup> is silicon, germanium or tin,

R<sup>8</sup> and R<sup>9</sup> are identical or different and are as defined for R<sup>11</sup>

m and n are identical or different and are zero, 1 or 2, m plus n being zero, 1 or 2,

the radicals  $R^{10}$  are identical or different and are as defined

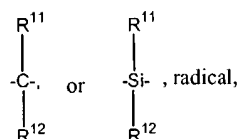
for  $R^{11}$ ,  $R^{12}$  and  $R^{13}$ ,

rings A are saturated or aromatic,

p is 8, when rings A are saturated, and

p is 4, when rings A are aromatic.

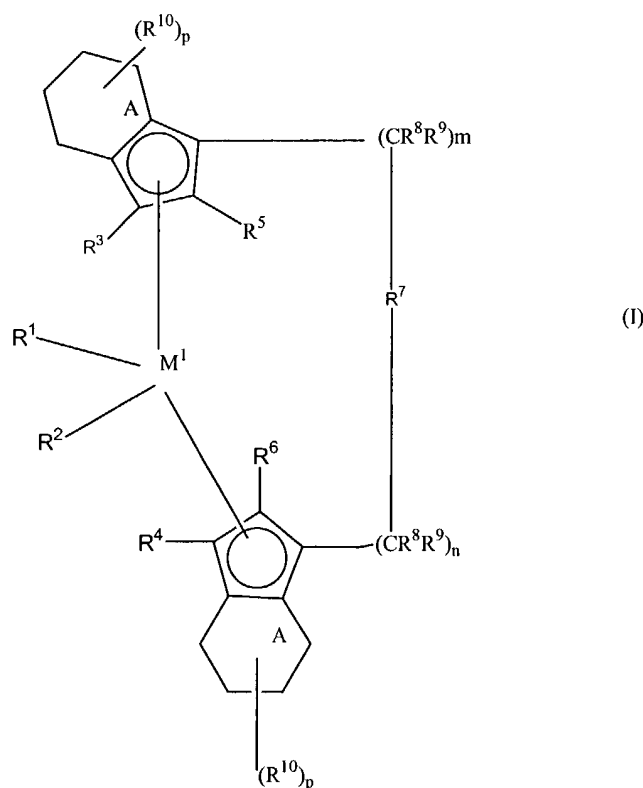
2. A compound of the formula I as claimed in claim 1, wherein, in the formula I,  $M^1$  is Zr or Hf,  $R^1$  and  $R^2$  are identical or different and are methyl or chlorine,  $R^3$  or  $R^4$  are hydrogen,  $R^5$  and  $R^6$  are identical or different and are methyl, ethyl or trifluoromethyl,  $R^7$  is a



n plus m is zero or 1, and  $R^{10}$  is hydrogen.

3. A compound of the formula I as claimed in claim 1 wherein the compound is rac-dimethylsilyl(2-methyl-4,5,6,7-tetrahydro-1-indenyl)<sub>2</sub>zirconium dichloride, racethylene(2-methyl-4,5,6,7-tetrahydro-1-indenyl)<sub>2</sub>zirconium dichloride, rac-dimethylsilyl (2-methyl-4,5,6,7-tetrahydro-1-indenyl)<sub>2</sub>dimethylzirconium or racethylene(2-methyl-4,5,6,7-tetrahydro-1-indenyl)<sub>2</sub>dimethylzirconium.
4. A compound as claimed in claim 1, wherein  $M^1$  is zirconium, hafnium or titanium.
5. A compound as claimed in claim 1, wherein  $R^1$  and  $R^2$  are identical or different and are a hydrogen atom, a C<sub>1</sub>-C<sub>3</sub>-alkyl group, a C<sub>1</sub>-C<sub>3</sub>-alkoxy group, a C<sub>6</sub>-C<sub>8</sub>-aryl group, a C<sub>6</sub>-C<sub>6</sub>-aralkoxy group, a C<sub>2</sub>-C<sub>4</sub>-alkenyl group, a C<sub>7</sub>-C<sub>10</sub>-arylalkyl group, a C<sub>7</sub>-C<sub>12</sub>-alkylaryl group, a C<sub>8</sub>-C<sub>12</sub>-arylalkenyl group or chlorine.

6. A compound as claimed in claim 1, wherein  $R^3$  is a  $C_4$ -alkyl group,  $C_1$ - $C_4$ -alkyl group which is halogenated, a  $C_6$ - $C_8$ -aryl group, an  $-NR_2^{15}$ ,  $-SR^{15}$ ,  $-OSiR_3^{15}$ ,  $-SiR_3^{15}$  or  $-PR_2^{15}$  radical and  $R^4$  is [are identical and different and are] a hydrogen atom, a fluorine, chlorine or bromine atom, a  $C_1$ - $C_4$ -alkyl group, which may be halogenated, a  $C_6$ - $C_8$ -aryl group, an  $-NR_2^{15}$ ,  $-SR^{15}$ ,  $-OSiR_3^{15}$ ,  $-SiR_3^{15}$  or  $-PR_2^{15}$  radical in which  $R^{15}$  is a chlorine atom, or a  $C_1$ - $C_3$ -alkyl group or a  $C_6$ - $C_8$ -aryl group
7. A compound [as claimed in claim 1,] of the formula (I) for preparing essentially isotactic olefin polymers



in which

$M^1$  is a metal from group IVb, Vb or VIb of the Periodic Table

$R^1$  and  $R^2$  are identical or different and are a hydrogen atom, a  $C_1$ - $C_{10}$ -alkyl group, a

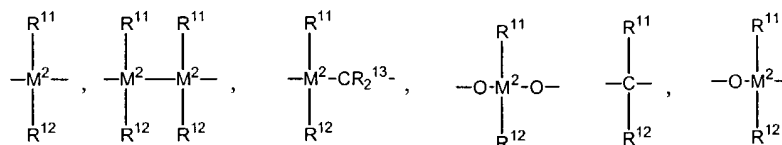
$C_1$ - $C_{10}$ -alkoxy group, a  $C_6$ - $C_{10}$ -aryl group, a  $C_6$ - $C_{10}$ -aryloxy group, a  $C_2$ -

C<sub>10</sub>-alkenyl group, a C<sub>7</sub>-C<sub>40</sub>-arylalkyl group, a C<sub>7</sub>-C<sub>40</sub>-alkylaryl group, a C<sub>8</sub>-C<sub>40</sub>-arylalkenyl group or a halogen atom,

R<sup>3</sup> and R<sup>4</sup> are hydrogen,

R<sup>5</sup> and R<sup>6</sup> are identical or different and are a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group, which is optionally halogenated, a C<sub>6</sub>-C<sub>10</sub>-aryl group, an -NR<sub>2</sub><sup>15</sup>, -SR<sup>15</sup>, -OSiR<sub>3</sub><sup>15</sup>, -SiR<sub>3</sub><sup>15</sup> or -PR<sub>2</sub><sup>15</sup> radical in which R<sup>15</sup> is a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group or a C<sub>6</sub>-C<sub>10</sub>-aryl group

R<sup>7</sup> is



=BR<sup>11</sup>, =AIR<sup>11</sup>, -Ge-, -Sn-, -O-, -S-, =SO, =SO<sub>2</sub>, =NR<sup>11</sup>, =CO, =PR<sup>11</sup> or =P(O)R<sup>11</sup>,

where

R<sup>11</sup>, R<sup>12</sup> and R<sup>13</sup> are identical or different and are a hydrogen atom, a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group, a C<sub>1</sub>-C<sub>10</sub>-fluoroalkyl group, a C<sub>6</sub>-C<sub>10</sub>-aryl group, a C<sub>6</sub>-C<sub>10</sub>-fluoroaryl group, a C<sub>1</sub>-C<sub>10</sub>-alkoxy group, a C<sub>2</sub>-C<sub>10</sub>-alkenyl group, a C<sub>7</sub>-C<sub>40</sub>-arylalkyl group, a C<sub>8</sub>-C<sub>40</sub>-arylalkenyl group or a C<sub>7</sub>-C<sub>40</sub>-alkylaryl group, or a pair of substituents R<sup>11</sup> and R<sup>12</sup>-- or R<sup>11</sup> and R<sup>13</sup> in each case with the atoms connecting them, form a ring,

M<sup>2</sup> is silicon, germanium or tin,

R<sup>8</sup> and R<sup>9</sup> are identical or different and are as defined for R<sup>11</sup>

m and n are identical or different and are zero, 1 or 2, m plus n being zero, 1 or 2,

the radicals R<sup>10</sup> are identical or different and are as defined

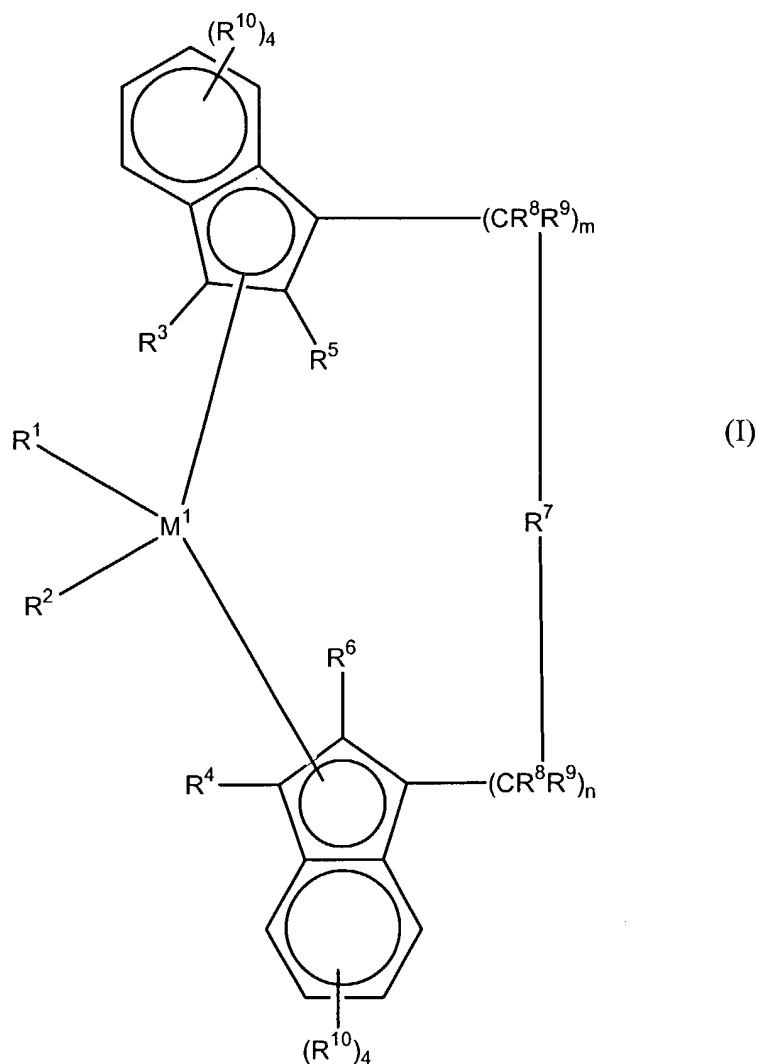
for R<sup>11</sup>, R<sup>12</sup> and R<sup>13</sup>,

rings A are saturated or aromatic,

p \_\_\_\_\_ is 8, when rings A are saturated, and

p \_\_\_\_\_ is 4, when rings A are aromatic.

8. A compound as claimed in claim 1, wherein R<sup>5</sup> and R<sup>6</sup> are identical.
9. A compound as claimed in claim 1, wherein R<sub>5</sub> and R<sub>6</sub> are (C<sub>1</sub>-C<sub>4</sub>)-alkyl, which may be halogenated with methyl.
10. A compound as claimed in claim 1, wherein R<sup>11</sup>, R<sup>12</sup> and R<sup>13</sup> are identical or different and are a hydrogen atom, a halogen atom, a C<sub>1</sub>-C<sub>4</sub>-alkyl group, a CF<sub>3</sub> group, a C<sub>6</sub>-C<sub>8</sub>-aryl group, a pentafluorophenyl group, a C<sub>1</sub>-C<sub>4</sub>-alkoxy group, a C<sub>2</sub>-C<sub>4</sub>-alkenyl group, a C<sub>7</sub>-C<sub>10</sub>-arylalkyl group, a C<sub>8</sub>-C<sub>12</sub>-arylalkenyl group of a C<sub>7</sub>-C<sub>12</sub>-alkylaryl group, or R<sup>11</sup> and R<sup>12</sup> or R<sup>11</sup> and R<sup>13</sup>, in each case together with the atoms connecting them, form a ring.
11. A compound as claimed in claim 1, wherein M<sup>2</sup> is silicon or germanium.
12. A compound as claimed in claim 1, wherein R<sup>7</sup> is =CR<sup>11</sup>R<sup>12</sup>, =SiR<sup>11</sup>R<sup>12</sup>, =GeR<sup>11</sup>R<sup>12</sup>, -O-, -S-, =SO, -PR<sup>11</sup> or =P(O)R<sup>11</sup>.
13. A compound as claimed in claim 1, wherein m and n are identical or different and are zero or 1.
14. A compound as claimed in claim 1, wherein m plus n is zero or 1.
15. A compound as claimed in claim 1, wherein R<sup>10</sup> is hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl groups.
- [16. A compound of the formula I



in which

$M^1$  is a metal from group IVb, Vb or VIb of the Periodic Table,

$R^1$  and  $R^2$  are identical or different and are a hydrogen atom, a  $C_1$ - $C_{10}$ -alkyl group, a  $C_1$ - $C_{10}$ -alkoxy group, a  $C_6$ - $C_{10}$ -aryl group, a  $C_6$ - $C_{10}$ -aryloxy group, a  $C_2$ - $C_{10}$ -alkenyl group, a  $C_7$ - $C_{40}$ -arylalkyl group, a  $C_7$ - $C_{40}$ -alkylaryl group, a  $C_8$ - $C_{40}$ -arylalkenyl group or a halogen atom,

$R^3$  and  $R^4$  are identical or different and are a hydrogen atom, a halogen atom, a  $C_1$ - $C_{10}$ -alkyl group, which is optionally halogenated, a  $C_6$ - $C_{10}$ -aryl group, an  $-NR_2^{15}$ ,  $-SR^{15}$ ,

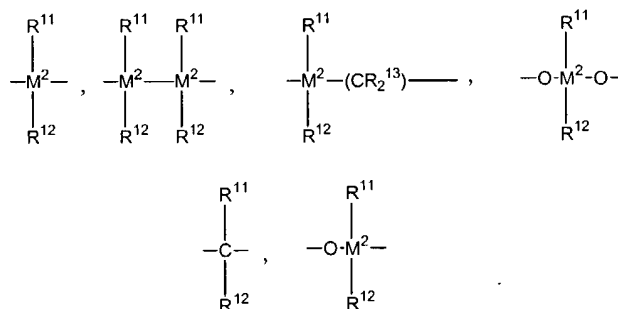


$-\text{OSiR}_3^{15}$ ,  $\text{SiR}_3^{15}$  or  $\text{PR}_2^{15}$  radical in which  $\text{R}^{15}$  is a halogen atom, a  $\text{C}_1$ - $\text{C}_{10}$ -alkyl group or a  $\text{C}_6$ - $\text{C}_{10}$ -aryl group,

$\text{R}^5$  and  $\text{R}^6$  are identical or different and are as defined for  $\text{R}^3$  and  $\text{R}^4$ , with the proviso that

$\text{R}^5$  and  $\text{R}^6$  are not both hydrogen,

$\text{R}^7$  is



$=\text{BR}^{11}$ ,  $=\text{AlR}^{11}$ ,  $-\text{Ge}-$ ,  $-\text{Sn}-$ ,  $-\text{O}-$ ,  $-\text{S}-$ ,  $=\text{SO}$ ,  $=\text{SO}_2$ ,  $=\text{NR}^{11}$ ,  $=\text{CO}$ ,  $=\text{PR}^{11}$  or  $=\text{P}(\text{O})\text{R}^{11}$ ,

where

$\text{R}^{11}$ ,  $\text{R}^{12}$  and  $\text{R}^{13}$  are identical or different and are a hydrogen atom, a halogen atom, a  $\text{C}_1$ - $\text{C}_{10}$ -alkyl group, a  $\text{C}_1$ - $\text{C}_{10}$ -fluoroalkyl group, a  $\text{C}_6$ - $\text{C}_{10}$ -aryl group, a  $\text{C}_2$ - $\text{C}_{10}$ -alkenyl group, a  $\text{C}_7$ - $\text{C}_{40}$ -arylalkyl group, a  $\text{C}_8$ - $\text{C}_{40}$ -arylalkenyl group or a  $\text{C}_7$ - $\text{C}_{40}$ -alkylaryl group, or a pair of substituents  $\text{R}^{11}$  and  $\text{R}^{12}$  or  $\text{R}^{11}$  and  $\text{R}^{13}$ , in each case with the atoms connecting them, form a ring,

$\text{M}^2$  is silicon, germanium or tin,

$\text{R}^8$  and  $\text{R}^9$  are identical or different and are as defined for  $\text{R}^{11}$ ,

$m$  and  $n$  are identical or different and are zero, 1 or 2,  $m$  plus  $n$  being zero, 1 or 2,

the radicals  $\text{R}^{10}$  are the same or different and are as defined for  $\text{R}^{11}$ ,  $\text{R}^{12}$  and  $\text{R}^{13}$ .]

[17. A compound as claimed in claim 16, wherein:

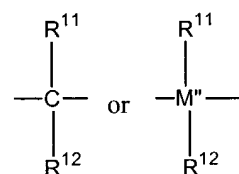
$\text{M}^1$  is titanium, zirconium, hafnium, vanadium, niobium, or tantalum,

$R^1$  and  $R^2$  are identical or different and are methyl or halogen,

$R^3$  and  $R^4$  are hydrogen,

$R^5$  and  $R^6$  are identical or different and are methyl, ethyl, or trifluoromethyl,

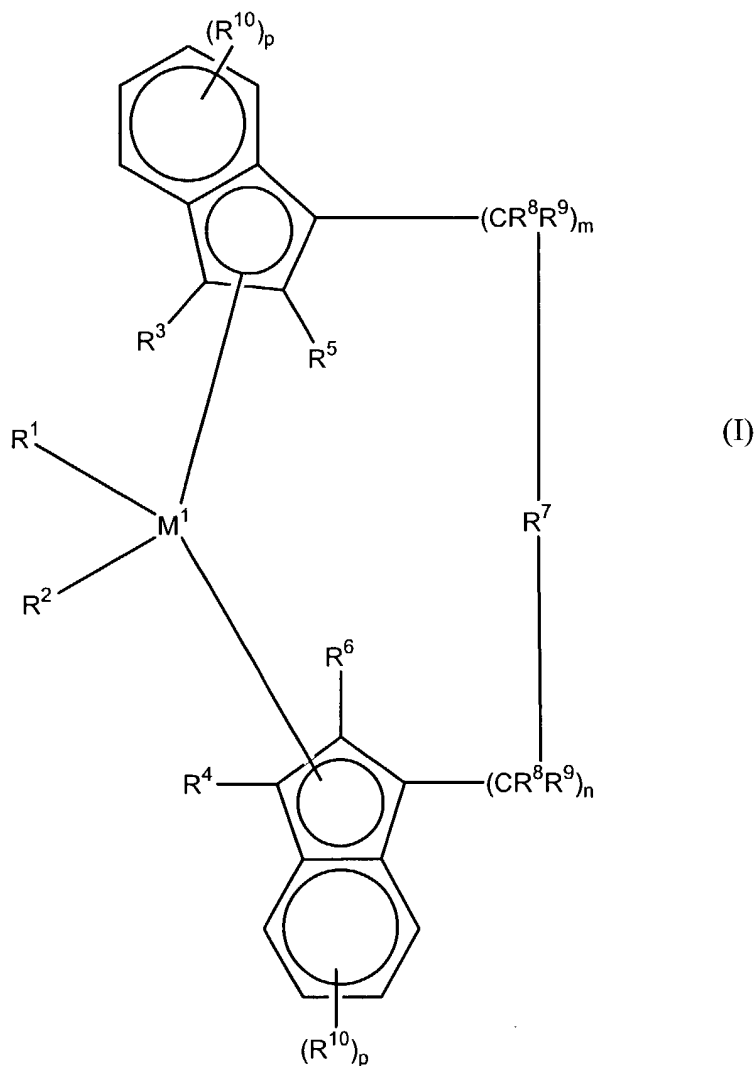
$R^7$  is a radical of the formula



where  $M''$  is silicon or germanium, and

$R^8$  and  $R^9$  are identical or different and are hydrogen or  $C_1$ - $C_{10}$ -alkyl.]

[18. A compound of the formula I



in which

$M^1$  is a metal from group IVb, Vb or VIb of the Periodic Table,

$R^1$  and  $R^2$  are identical or different and are a hydrogen atom,

a  $C_1$ - $C_{10}$ -alkyl group, a  $C_1$ - $C_{10}$ -alkoxy group, a  $C_6$ - $C_{10}$ -aryl group, a  $C_6$ - $C_{10}$ -aryloxy

group, a  $C_2$ - $C_{10}$ -alkenyl group, a  $C_7$ - $C_{40}$ -arylalkyl group, a  $C_7$ - $C_{40}$ -alkylaryl group,

a  $C_8$ - $C_{40}$ -arylalkenyl group or a halogen atom,

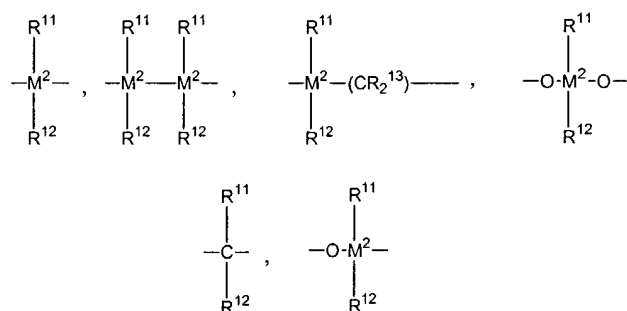
$R^3$  and  $R^4$  are identical or different and are a hydrogen atom, a halogen atom, a  $C_1$ - $C_{10}$ -alkyl group, which is optionally halogenated, a  $C_6$ - $C_{10}$ -aryl group, an  $-NR_2^{15}$ ,  $-SR^{15}$ ,

$-\text{OSiR}_3^{15}$ ,  $\text{SiR}_3^{15}$  or  $\text{PR}_2^{15}$  radical in which  $\text{R}^{15}$  is a halogen atom, a  $\text{C}_1\text{-C}_{10}$ -alkyl group or a  $\text{C}_6\text{-C}_{10}$ -aryl group,

$\text{R}^5$  and  $\text{R}^6$  are identical or different and are as defined for  $\text{R}^3$  and  $\text{R}^4$ , with the proviso that

$\text{R}^5$  and  $\text{R}^6$  are not both hydrogen,

$\text{R}^7$  is



$=\text{BR}^{11}$ ,  $=\text{AlR}^{11}$ ,  $-\text{Ge}-$ ,  $-\text{Sn}-$ ,  $-\text{O}-$ ,  $-\text{S}-$ ,  $=\text{SO}$ ,  $=\text{SO}_2$ ,  $=\text{NR}^{11}$ ,  $=\text{CO}$ ,  $=\text{PR}^{11}$  or  $=\text{P}(\text{O})\text{R}^{11}$ ,

where

$\text{R}^{11}$ ,  $\text{R}^{12}$  and  $\text{R}^{13}$  are identical or different and are a hydrogen atom, a halogen atom, a  $\text{C}_1\text{-C}_{10}$ -alkyl group, a  $\text{C}_1\text{-C}_{10}$ -fluoroalkyl group, a  $\text{C}_6\text{-C}_{10}$ -aryl group, a  $\text{C}_2\text{-C}_{10}$ -alkenyl group, a  $\text{C}_7\text{-C}_{40}$ -arylalkyl group, a  $\text{C}_8\text{-C}_{40}$ -arylalkenyl group or a  $\text{C}_7\text{-C}_{40}$ -alkylaryl group, or a pair of substituents  $\text{R}^{11}$  and  $\text{R}^{12}$  or  $\text{R}^{11}$  and  $\text{R}^{13}$ , in each case with the atoms connecting them, form a ring,

$\text{M}^2$  is silicon, germanium or tin,

$\text{R}^8$  and  $\text{R}^9$  are identical or different and are as defined for  $\text{R}^{11}$ ,

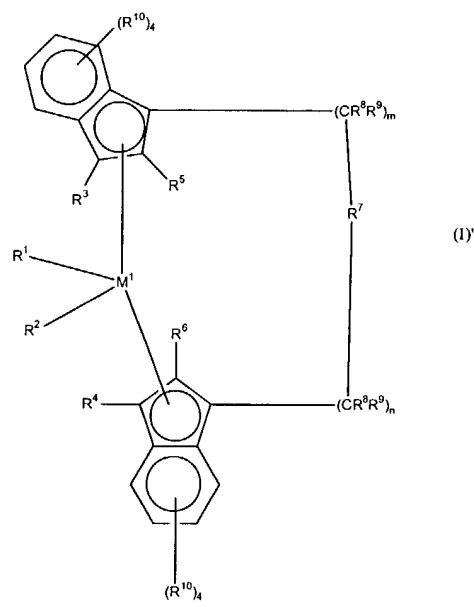
$m$  and  $n$  are identical or different and are zero, 1 or 2,  $m$  plus  $n$  being zero, 1 or 2,

$p$  is a number from 1 to 4, and

the radicals  $\text{R}^{10}$  are the same or different and are a halogen atom, a  $\text{C}_1\text{-C}_{10}$ -alkyl group, a  $\text{C}_1\text{-C}_{10}$ -fluoroalkyl group, a  $\text{C}_6\text{-C}_{10}$ -aryl group, a  $\text{C}_2\text{-C}_{10}$ -alkenyl group, a  $\text{C}_7\text{-C}_{40}$ -arylalkyl

group, a C<sub>8</sub>-C<sub>40</sub>-arylalkenyl group or a C<sub>7</sub>-C<sub>40</sub>-alkylaryl group, or a pair of substituents R<sup>10</sup>, with the atoms connecting them, form a ring.]

19. A compound of the formula (I)'



in which

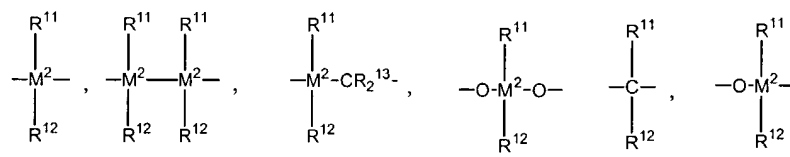
M<sup>1</sup> is a metal from group IVb, Vb or VIb of the Periodic Table,

R<sup>1</sup> and R<sup>2</sup> are identical or different and are a hydrogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group, a C<sub>1</sub>-C<sub>10</sub>-alkoxy group, a C<sub>6</sub>-C<sub>10</sub>-aryl group, a C<sub>6</sub>-C<sub>10</sub>-aryloxy group, a C<sub>2</sub>-C<sub>10</sub>-alkenyl group, a C<sub>7</sub>-C<sub>40</sub>-arylalkyl group, a C<sub>7</sub>-C<sub>40</sub>-alkylaryl group, a C<sub>8</sub>-C<sub>40</sub>-arylalkenyl group or a halogen atom,

R<sup>3</sup> is a hydrogen atom, a halogen atom, a C<sub>2</sub>-C<sub>10</sub>-alkyl group, a C<sub>1</sub>-C<sub>10</sub>-alkyl group which is halogenated, a C<sub>6</sub>-C<sub>10</sub>-aryl group, an -NR<sub>2</sub><sup>15</sup>, -SR<sup>15</sup>, -OSiR<sub>3</sub><sup>15</sup>, -SiR<sub>3</sub><sup>15</sup> or -PR<sub>2</sub><sup>15</sup> radical in which R<sup>15</sup> is a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group or a C<sub>6</sub>-C<sub>10</sub>-aryl group,

R<sup>4</sup> is a hydrogen atom, a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group, which is optionally halogenated, a C<sub>6</sub>-C<sub>10</sub>-aryl group, an -NR<sub>2</sub><sup>15</sup>, -SR<sup>15</sup>, -OSiR<sub>3</sub><sup>15</sup>, -SiR<sub>3</sub><sup>15</sup> or -PR<sub>2</sub><sup>15</sup> radical in which R<sup>15</sup> is a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group or a C<sub>6</sub>-C<sub>10</sub>-aryl group, R<sup>5</sup> and R<sup>6</sup> are identical or different and are as defined for R<sup>3</sup> and R<sup>4</sup>, with the proviso that R<sup>5</sup> and R<sup>6</sup> are not hydrogen,

R<sup>7</sup> is



=BR<sup>11</sup>, =AlR<sup>11</sup>, -Ge-, -Sn-, -O-, -S-, =SO, =SO<sub>2</sub>, =NR<sup>11</sup>, =CO, =PR<sup>11</sup> or =P(O)R<sup>11</sup>,

where

R<sup>11</sup>, R<sup>12</sup> and R<sup>13</sup> are identical or different and are a hydrogen atom, a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group, a C<sub>1</sub>-C<sub>10</sub>-fluoroalkyl group, a C<sub>6</sub>-C<sub>10</sub>-aryl group, a C<sub>2</sub>-C<sub>10</sub>-alkenyl group, a C<sub>7</sub>-C<sub>40</sub>-arylalkyl group, a C<sub>8</sub>-C<sub>40</sub>-arylalkenyl group or a C<sub>7</sub>-C<sub>40</sub>-alkylaryl group, or a pair of substituents R<sup>11</sup> and R<sup>12</sup>-- or R<sup>11</sup> and R<sup>13</sup>, in each case with the atoms connecting them, form a ring,

M<sup>2</sup> is silicon, germanium or tin,

R<sup>8</sup> and R<sup>9</sup> are identical or different and are as defined for R<sup>11</sup>

m and n are identical or different and are zero, 1 or 2, m plus n being zero, 1 or 2, the

radicals R<sup>10</sup> are the same or different and are as defined for R<sup>11</sup>, R<sup>12</sup> and R<sup>13</sup>.

20. A compound as claimed in claim 19, wherein:

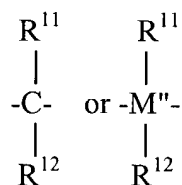
M<sup>1</sup> is titanium, zirconium, hafnium, vanadium, niobium, or tantalum,

R<sup>1</sup> and R<sup>2</sup> are identical or different and are methyl or halogen,

R<sup>3</sup> and R<sup>4</sup> are hydrogen,

R<sup>5</sup> and R<sup>6</sup> are identical or different and are methyl, ethyl, or trifluoromethyl,

R<sup>7</sup> is a radical of the formula



where M'' is silicon or germanium, and

R<sup>8</sup> and R<sup>9</sup> are identical or different and are hydrogen or C<sub>1</sub>-C<sub>10</sub>-alkyl.

21. A catalyst composition comprising the combination comprising a compound of claim 19 and a cocatalyst.
22. A catalyst composition comprising the combination comprising a compound of claim 19 and an aluminoxane.
23. A process for polymerizing an olefin monomer, comprising the step of carrying out the polymerization in the presence of a catalyst composition of claim 21.
24. A process for polymerizing an olefin monomer, comprising the step of carrying out the polymerization in the presence of a catalyst composition of claim 22.
25. The compound as claimed in claim 1, wherein R<sup>3</sup> is a hydrogen atom, a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group which is halogenated, a C<sub>6</sub>-C<sub>10</sub>-aryl group, an -NR<sub>2</sub><sup>15</sup>, -SR<sup>15</sup>, -OSiR<sub>3</sub><sup>15</sup>, -SiR<sub>3</sub><sup>15</sup> or -PR<sub>2</sub><sup>15</sup> radical in which R<sup>15</sup> is a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group or a C<sub>6</sub>-C<sub>10</sub>-aryl group.

26. The compound as claimed in claim 1, wherein  $R^3$  is a hydrogen atom, a halogen atom, a  $C_6$ - $C_{10}$ -aryl group, an  $-NR_2^{15}$ ,  $-SR^{15}$ ,  $-OSiR_3^{15}$ ,  $-SiR_3^{15}$  or  $-PR_2^{15}$  radical in which  $R^{15}$  is a halogen atom, a  $C_1$ - $C_{10}$ -alkyl group or a  $C_6$ - $C_{10}$ -aryl group.